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**Comments Supporting
Petition for Reconsideration
MB Docket No. 03-185**

These Comments have been prepared in support of a Petition for Reconsideration which was filed by Byron W. St. Clair in MB Docket No. 03-185. As described in Mr. St. Clair's petition, in the Report and Order¹ in this proceeding the Commission recognized that the standard vertical plane patterns set out in OET Bulletin No. 69 ("OET-69") and used for interference analysis for analog and digital television stations are generally inappropriate for use in evaluating interference to and from LPTV and TV translator stations.

However, rather than adopting a policy of using the most accurate available data, such as manufacturer's vertical plane radiation patterns, the Commission determined to simply modify the OET-69 patterns, multiplying the vertical plane relative field values by a factor of 2 (up to a maximum relative field of 1.0) for use in LPTV and TV translator interference analyses.

The Commission's decision does not go nearly far enough in furthering a goal of accurate interference analysis. By not authorizing the use of manufacturer's vertical plane radiation patterns (where available) in interference analyses, the Commission has both foreclosed spectrum use opportunities, while also opening the doors to increased interference.

¹ *Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, released on September 30, 2005.

By way of example, this firm recently prepared an amendment to a short-form application for a new TV translator station on Channel 41 at Williams-Ashfork, Arizona, FCC File No. BNPTT-20000823ACD. On February 25, 2005, the Video Division dismissed the Williams-Ashfork application, citing alleged interference to K41FT at Kingman, Arizona.

After discussing the dismissal with the Video Division's processing engineer, we came to understand that the Commission's interference analysis software program predicts that K41FT provides protected 74 dBu Longley-Rice service to only 94 persons within the K41FT 74 dBu contour. Therefore, it would not have been permissible for the proposed Williams-Ashfork translator to cause interference to even 1 person without crossing the 0.5% threshold. The Commission's analysis indicated that the proposed translator caused interference to 48 persons or 51% of the K41FT service population.

By contrast, an interference analysis conducted by this firm, using the manufacturer's vertical plane patterns for both stations, indicated that the proposed translator causes interference to none of the K41FT service population, or at the very worst caused interference to less than 0.5% of the K41FT service population.

The apparent reason for this discrepancy is that the Commission's software program is constrained to apply a single standard vertical plane radiation pattern for all analog UHF TV translator and LPTV facilities, as specified in OET Bulletin No. 69 and subsequently modified by the Report and Order in MB Docket No. 03-185. Unfortunately, this hypothetical pattern was originally developed for interference analysis of full-power television stations, which typically utilize high-gain antennas, and bears little resemblance to the Scala 4DR-16-2HW antenna which is used by K41FT and which was proposed for use by the Williams-Ashfork translator.

The K41FT antenna is located on a high peak approximately 5000 feet above the valley floor. Consequently, much of the target population for K41FT lies at relatively steep vertical angles to the K41FT antenna, on the order of 5 degrees below the horizontal. At this vertical angle, the

Commission's standard vertical plane pattern for UHF translator stations has a relative field value of 0.26 while the manufacturer's pattern for the Scala 4DR-16-2HW has a relative field value of 0.372. This equates to a 3 dB discrepancy at this particular vertical angle, which can make a significant difference in this type of analysis, particularly when the actual received signal strength values (i.e. resulting from use of the manufacturer's pattern) in the station's service area are only slightly above 74 dBu.

Clearly, the application of a standard vertical plane radiation pattern in this case produces anomalous results. While not entirely outside the realm of possibility, it is highly unlikely that K41FT was designed to provide service to only 94 persons.

Furthermore, application of the standard vertical plane pattern would imply that K41FT does not provide any protected service in the city of Kingman, which is its community of license, which is located within the 74 dBu contour, and which is line-of-sight from the K41FT antenna. Consequently it would be hypothetically possible for another party to propose a co-channel translator in downtown Kingman, using a directional antenna to provide protection to those 94 persons but causing widespread interference to the present service provided by K41FT in Kingman!

Attached is a map depicting the protected service from K41FT as predicted using the Commission's standard vertical plane radiation pattern for UHF translator stations and a study grid which is 2 km on a side. Given the sparse population in Arizona outside the cities and towns, it is not surprising that the use of this hypothetical pattern indicates service to only 94 persons.

Following that map is a map of the protected service from K41FT as predicted using the manufacturer's vertical plane pattern (tabulated every 1 degree) and a study grid which is 0.5 km on a side. This study, using a vertical plane pattern which is significantly more accurate than that used by the Commission's analysis, indicates that K41FT provides 74 dBu service to

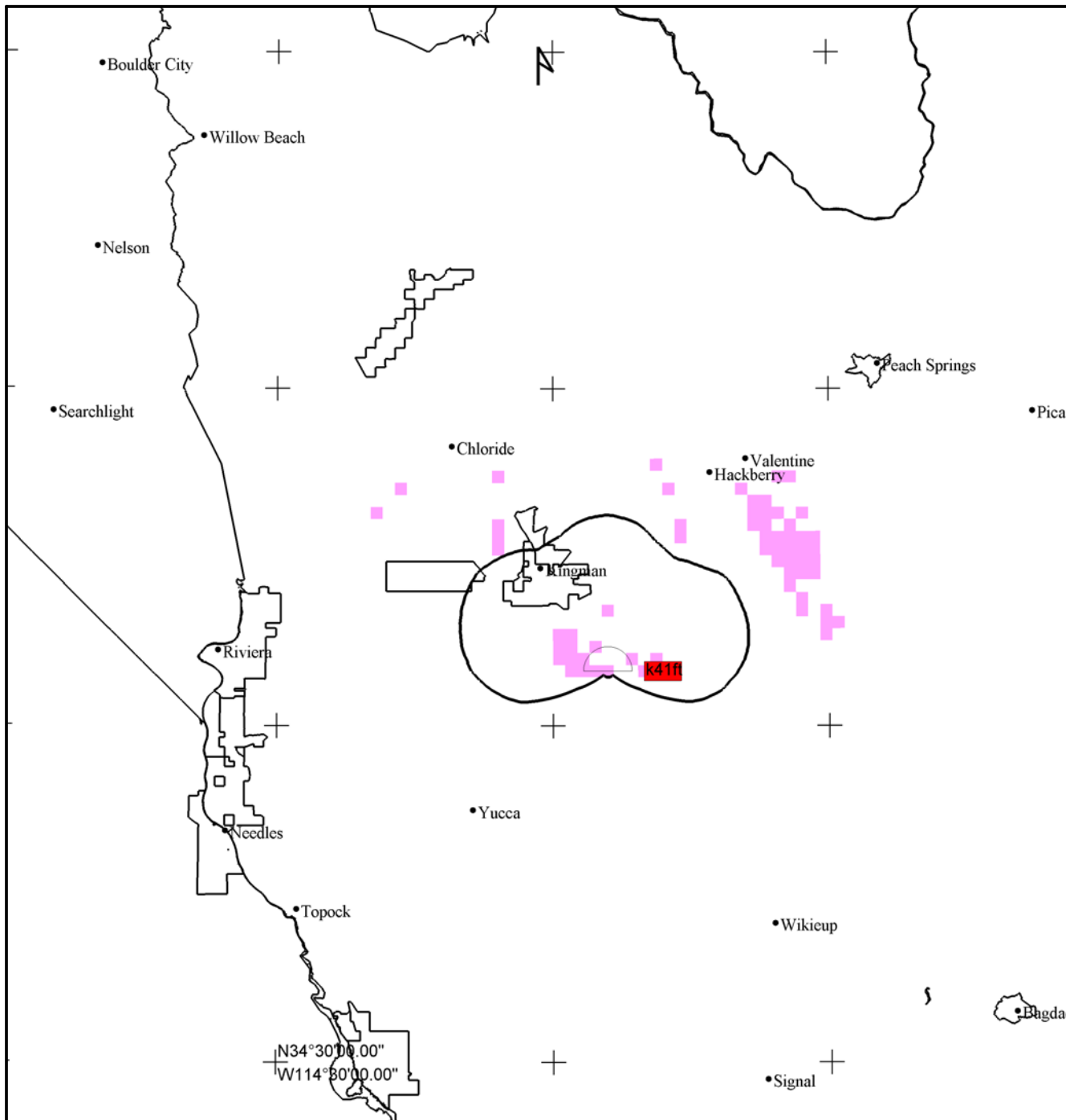
approximately 5600 persons, and our corresponding interference analysis indicates that the proposed Williams-Ashfork translator causes interference only in unpopulated areas.

As a practical matter, the set of five alternative vertical plane patterns suggested by Mr. St. Clair would be a step in the right direction. Moreover, it would be in the best interests of all parties if the Commission would take the actual manufacturer's vertical plane radiation patterns into account, when available, in interference analyses.

Signed this 12th day of April, 2005.

A handwritten signature in black ink, appearing to read "Erik C. Swanson". The signature is fluid and cursive, with the first name "Erik" and last name "Swanson" clearly distinguishable.

Erik C. Swanson



SIGNAL™: Williams-Ashfork Ch 41

Prop. model: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Continental Temperate
Land use (clutter): none
Atmospheric Abs.: none
K Factor: 1.333

Sites

Site: k41ft
N35°04'53.00" W113°54'14.00" 2557.0 m
k41ft * Tx.Ht.AGL: 10.0 m Total ERPd: 0.53 dBkW
Model: 1 directional-horizontal/0.0° 633.2500 MHz

Field strength at remote

> 74.0 dBuV/m
< 74.0 dBuV/m

Display threshold level: -120.0 dBmW
RX Antenna - Type: OMNI
Height: 9.1 m AGL Gain: 0.00 dBd

KILOMETERS

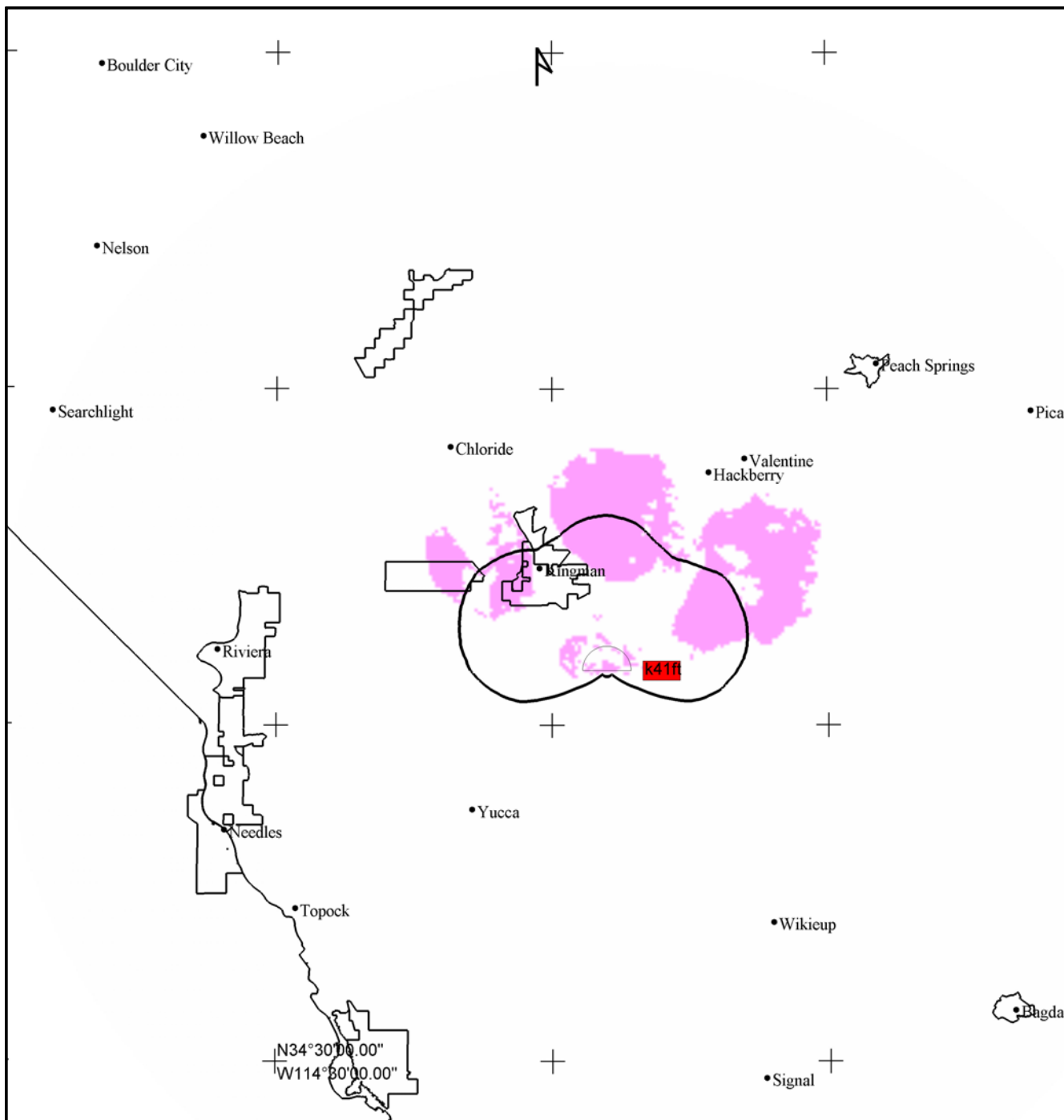
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K41FT Coverage with FCC VPat

Hatfield & Dawson

Williams-Ashfork Ch41

March 2005



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Land use (clutter): none
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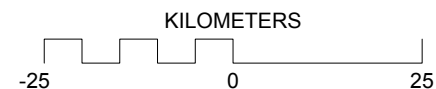
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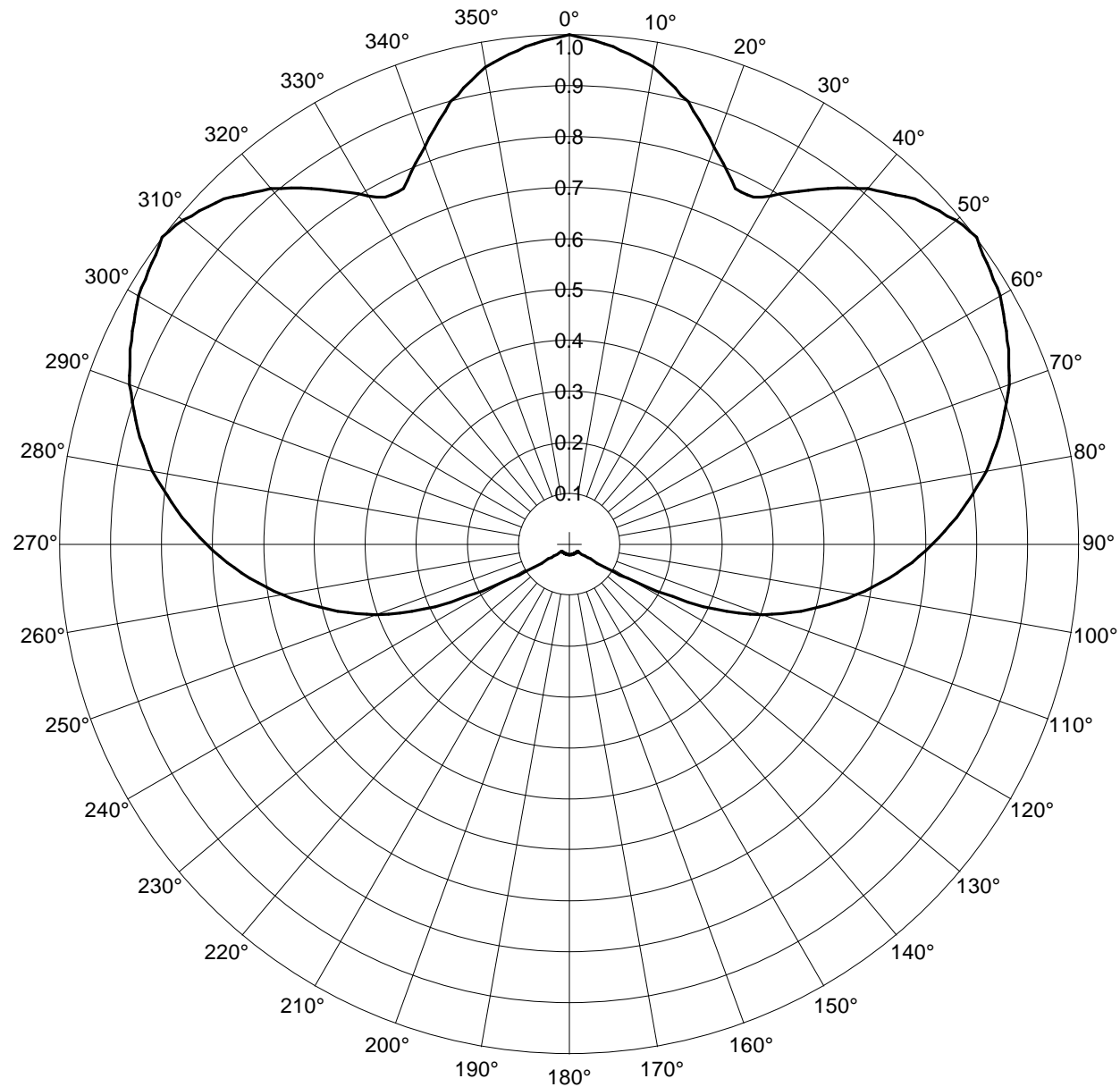
K41FT Coverage (Scala)

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Williams-Ashfork Ch41

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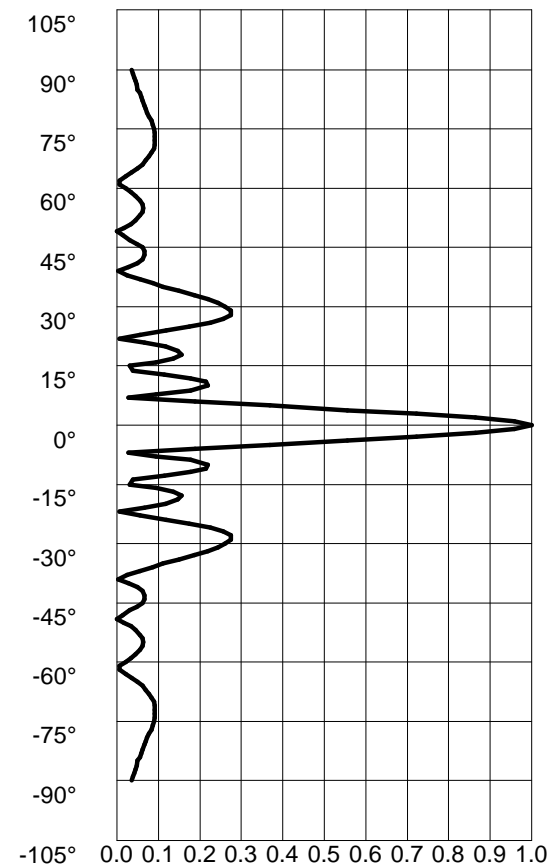
HORIZONTAL PLANE PATTERN



Relative Intensity

VERTICAL PLANE PATTERN

Azimuth: 0.0°



Relative Intensity

Pattern file: 4dr162hw.pat